

P Series

Potentiometer Joysticks

P Series

- **Compact**
- **Precise**
- **Strong and durable**
- **Long life**
- **Single, dual and third axis versions**
- **Push-button knob option**
- **Spring or friction modes**
- **Amplified output option**
- **Easy to interface**
- **Wide supply voltage range**
- **Microswitch option**
- **Variety of levers and knobs**
- **Internal or external gaiters**
- **Entirely passive (except amplified versions)**
- **IP65 rating (above panel)**

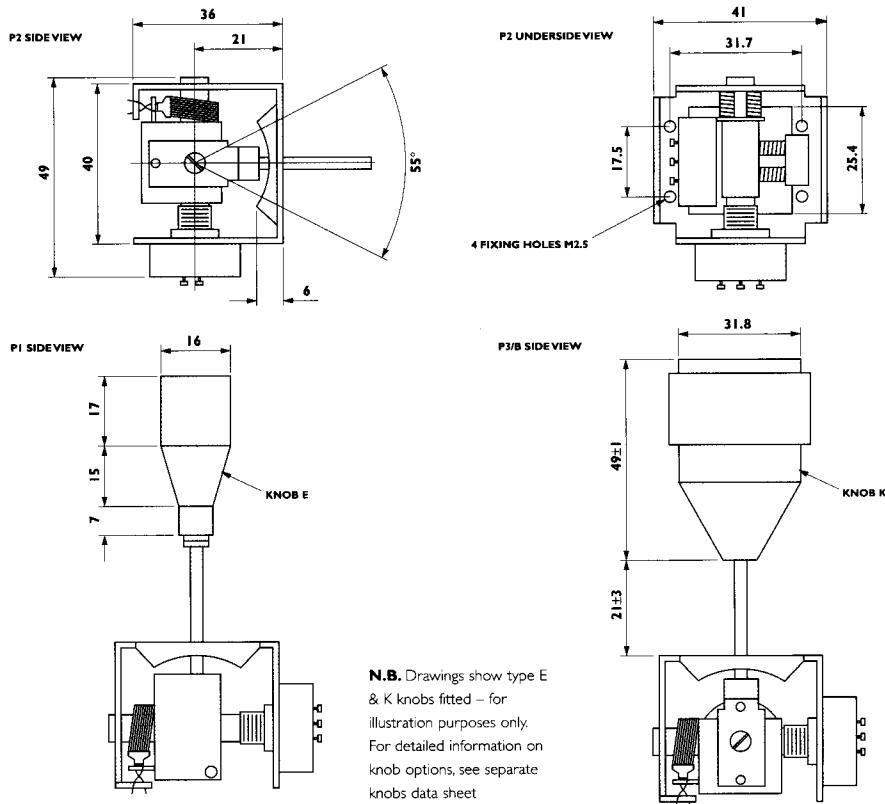
General Description

POTENTIOMETRIC JOYSTICKS

PML FlightLink P-Series potentiometric joysticks incorporate high quality potentiometers in a compact, durable assembly suitable for a wide variety of electronic equipment. Options include plain, push-button or third axis knobs, narrow angle and centre tapped pots. Built-in electronic amplification and buffering are also optional and can further ensure simple interfacing.

P Series Potentiometer joysticks

Joystick Dimensions (mm)



Electronic Specification

Note: As the performance in service of any potentiometer is outside the direct control of PML FlightLink, warranties in respect of potentiometer life is limited to that provided by the manufacturer of the potentiometers.

Note: Care should be taken to interpret potentiometer specifications written for 300° tracks, correctly, in the context of 55° operation.

Standard Potentiometer

Track value/tol	10k, 5k, 5k Ohms Centre Tap - all $\pm 20\%$
Track angle	300°(standard) 55° (optional)
Tapping point	None (standard) Centre (option) on 5k Ohms only (2° wide, voltage type)
Power rating	1.0 Watt at 70°C. Derate to 0 at 125° (300° track) 0.2 Watt at 70°C. Derate to 0 at 125° (55° track)
Insulation resistance	>1000 Megohms at 500Vcc. at 20°C
Dielectric strength	1000V RMS @ 50Hz
Linearity	$\pm 2\%$
Track material	Plastic film
Output smoothness	0.1% max
Permissible load	Higher than 100k Ohms for long life (see application notes)
Alignment	$\pm 0.5\%$ of track, or as limited by potentiometers
Repeatability	$\pm 0.2\%$ of track (when new)

Other Potentiometer	Low cost carbon track Type 45
Amplified Outputs	Any gain/signal specification, with buffering of wipers is achievable using a PCB unit on the fixed pot. (See application notes).
Microswitches	
Type	V4, 5 amp 250V a.c. single-pole changeover (See application notes)
Mode	Centre detect (1) or trips either side of centre (2)

Mechanical Specification

Types	Sprung to centre (standard) Sprung to end (special order) Friction Ball Detent (wafer switch only)
Materials	
Frame	Mild Steel, Zinc-plated
Trunnion	Anodised HE30 Aluminium
Angle	Anodised HE30 Aluminium
Levers	Stainless Steel
Shaft	Stainless Steel
Bush	Brass
Mouldings	Nylon
Gaiters	PVC
Wire	Mechanism PVC insulated 14/0.12 3rd axis 7/0.1

Mounting Dimensions	
Hole size	M2.5 mm std, 4/40 UNF optional

Spring torque	Torque from Centre
	Weak 0.7 kgcm
	Standard 1.0 kgcm
	Heavy 1.7 kgcm

Wiring Information (mechanism)	
Pin 1	common red (+ve supply)
Pin 2	X axis blue
Pin 3	Y axis yellow
Centre tap	common black (-ve supply) green (if present)

Wiring Information (3rd axis knobs)	
Pin 1	red (+ve supply)
Pin 2	Z axis green
Pin 3	blue (-ve supply)
Push button	white/yellow (if present)